CLAIMS

1. An apparatus for testing samples of a solid material contained in a reactor tube, said apparatus comprising a holder for said tube, a flow module for generating a carrier fluid flow containing a probe through said tube positioned in said holder, a magazine for additional tubes, and a conveyor for replacing said tube positioned in said holder with an additional tube from said magazine.

2. The apparatus of claim 1 wherein said solid material comprises a catalyst or an adsorbent.

3. The apparatus of claim 1 wherein said reactor tube, said holder for said tube, said magazine for additional tubes, and said conveyor for replacing said tube positioned in said holder with an additional tube from said magazine comprises an automated thermal desorption unit.

4. The apparatus of claim 1 wherein the flow module further comprises an injector for injecting a probe and/or additional carrier fluid into the carrier fluid flow.

5. The apparatus of claim 4 wherein the injector is positioned relatively close to the holder.

6. The apparatus of claim 1 wherein said flow module comprises a feedline for establishing fluid communication with a tube that is placed into the holder and wherein the cross-sectional area of the lumen of the feed line is substantially smaller than the cross-sectional area of the lumen of the tube.

7. The apparatus of claim 1 wherein means are provided for accurately controlling the temperature of said tube in said holder.

8. The apparatus of claim 1 which further comprises an analysis module for at least partially determining the composition of the reaction products exiting said reactor tube.

9. A method of testing a plurality of samples of a solid material contained in a reactor tube by means of an apparatus comprising a holder for a tube, a flow module for generating a carrier fluid flow containing a probe and a magazine for additional tubes, which method comprises placing said tube in said holder, generating a carrier fluid flow through said tube, and replacing said tube with an additional tube from said magazine.

10. The method of claim 9 wherein said probe and/or additional carrier fluid is injected into the carrier fluid flow relatively close to said holder.

11. The method of claim 9 wherein said reactor tube, said holder, and said magazine comprises an automated thermal desorption unit.